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09/914,371	04/20/2004	Eric Allamanche	SCHO0064	3894

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EXAMINER

TO, BAO TRAN N

ART UNIT	PAPER NUMBER
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2135

DATE MAILED: 12/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/914,371

Applicant(s)

ALLAMANCHE ET AL.

Examiner

Bao Tran N. To

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 August 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-10, 20, 25-27 and 32 is/are allowed.
- 6) ☒ Claim(s) 11-19, 21-24, 28-31 and 33-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08/24/2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>08/24/01; 08/30/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-36 have been examined.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 08/14/2001 and 08/30/2004. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Drawings

3. The drawings are objected to because the phrase "Decryption means" of element 18 in Fig. 1 should be **---Encryption means---**, and the phrase (data stream syntax) of element 16 in Fig. 1 should be **---data stream syntax---**. The phrase "Decryption key k" of element 38 in Fig. 4 and Fig. 5 should be **---Decryption means key k---**. Appropriate correction is required. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the

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drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 11-19, 21-24, 28-31 and 33-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 11, 21, 28 and 33 recite the limitation "the second data stream" in line 21.

There is insufficient antecedent basis for this limitation in the claim.

Claims 12, 22, 29 and 34 recite the limitation "said first data stream" in line 3.

There is insufficient antecedent basis for this limitation in the claim.

Claims 13, 23, 30 and 35 recite the limitation "the second data stream" in line 25.

There is insufficient antecedent basis for this limitation in the claim.

Claims 17, 24, 31 and 36 recite the limitation "the same data stream syntax" in line 12. There is insufficient antecedent basis for this limitation in the claim.

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Claims 14-16 and 18-19 are also rejected for incorporating the same reason above by dependency.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 11- 19, 21-24, 28-31 and 33-36 are rejected under 35 U.S.C. 102(e) as being anticipated by Chen et al. (U. S. Patent 6,300,888 B1) herein referred to as Chen.

Regarding on Claims 11 and 21, Chen discloses apparatus for generating a data stream encrypted based on a second key from a first data stream encrypted based on a first key, wherein said first data stream is an audio signal with a predefined data stream syntax encoded using an encoder with a predefined data stream syntax, wherein said first data stream is encrypted such that two or more quantized spectral values in a frequency band comprising two or more quantized spectral values and having associated code table have been resorted based on the first key, wherein after the resorting has been carried out via a plurality of predefined code tables, wherein each code table is

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provided for the entropy encoding of quantized spectral values in a frequency band and wherein at least one frequency band comprises the two or more quantized spectral value, comprising:

a partial decoder (decoder) for reversing part of the encoding such that the resorted the resorted two or more spectral value are present (col. 5, lines 60-67 and col. 6, lines 1-5);

a decryption means for decrypting the resorted two or more spectral values by reversing the resorting based on the first key (reverse code book) (col. 5, lines 60-67 and col. 9, lines 35-50);

an encryption means for influencing the sequence of the two or more spectral values of the frequency band that has an associated code table based on the second key (code book key 906) (col. 14, lines 5-25);

a partial encoder (encoder) for carrying out part of the encoding that has been reversed by the partial decoder in order to generate the data stream encrypted based on the second key, wherein the second data stream has the predefined data stream syntax (col. 6, lines 10-40 and col. 9, lines 5-50).

Regarding on Claims 12 and 22, Chen discloses apparatus for generating a second data stream encrypted based on a key from a data stream, wherein said first data stream is an audio signal encoded using an encoder with a predefined data stream syntax, comprising:

a partial decoder (decoder) for reversing part of the encoding such that quantized spectral values of the audio signal are present (Figure 2, col. 5, lines 60-67 and col. 6, lines 1-10);

an encryption means for resorting two or more quantized spectral values in a frequency band comprising two or more spectral values based on the first key (code book key 906), wherein one of a plurality of predefined code tables is associated to the frequency band for the entropy encoding, wherein each code table is provided for an entropy encoding of quantized spectral values in a frequency band and wherein at least one frequency band comprises the two or more quantized spectral values, wherein the encryption means is arranged to resort the quantized spectral values that have the same associated code table (col. 6, lines 55-67 through col. 8, lines 1-40 and col. 14, lines 5-25);

a partial encoder (encoder) for carrying out part of the encoding that has been reversed by the partial decoder in order to generate the data stream encrypted based on the key, wherein the second data stream has the predefined data stream syntax (col. 6, lines 10-40 and col. 9, lines 5-50).

Regarding on Claims 13 and 23, Chen discloses apparatus for generating a decrypted data stream from a first data stream encrypted based on a key, wherein said first data stream is an audio signal with a predefined data stream syntax encoded by

using an encoder, wherein said first data stream is encrypted such that at least two or more quantized spectral values in a frequency band have been resorted based on the first key, wherein a plurality of predefined code tables for an entropy encoding is associated with the frequency band whose quantized spectral values have been resorted, wherein each code table for the entropy encoding of quantized spectral values is provided in a frequency band and wherein at least one frequency band comprises the two or more quantized spectral values, comprising:

a partial decoder (decoder) for reversing part of the encoding such that the resorted two or more quantized spectral values are present, wherein the resorted two or more quantized spectral values belong to the frequency band that has an associated code table (col. 5, lines 60-67 and col. 6, lines 1-5);

a decrypting means for decrypting the resorted two or more quantized spectral values by reversing the resorting based on the key (reverse code book) (col. 5, lines 60-67 and col. 9, lines 35-50);

a partial encoder (encoder) for carrying out part of the encoding that has been reversed by the step of reversing in order to generate the second data stream with the predefined data stream syntax (col. 6, lines 10-40 and col. 9, lines 5-50).

Regarding on Claims 17 and 24, Chen discloses apparatus for generating a decrypted audio signal from an encrypted data stream comprising quantized spectral values of an audio signal being resorted and afterwards entropy encoded within a frequency band in a uniquely reversible manner, wherein the frequency band is defined

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that it has an associated code table from a plurality of code tables for the entropy encoding, wherein the encrypted data stream comprises payload information differing from payload information of a non-encrypted data stream and wherein said encrypted data stream comprises the same data stream syntax as a non-encrypted data stream, comprising:

a decoder (entropy decoder 202) for decoding input data in order to generate decoded output data, wherein the decoder comprises an entropy decoder for reversing the entropy encoding in order to obtain the resorted quantized spectral values (col. 5, lines 60-65); and

a decryption means for influencing the resorted spectral values based on a key (reverse code book) in order to reverse the uniquely reversible resorting which has been carried out in an apparatus for generating an encrypted data stream in order to obtain the decrypted audio and/or video signal (col. 5, lines 60-67 through col. 6, lines 1-10 and col. 9, lines 35-50).

Regarding on Claims 28 and 33, Chen discloses apparatus for generating a data stream encrypted based on a second key from a first data stream encrypted based on a first key, wherein said first data stream is an audio signal with a predefined data stream syntax encoded using an encoder, wherein said first data stream is encoded such that a sequence of code words generated by entropy encoding of quantized spectral values has been resorted by changing an order of code words based on the first key, comprising:

a partial decoder (decoder) for reversing part of the encoding such that the resorted sequence of code words is present (col. 5, lines 60-67 and col. 6, lines 1-5);

a decryption means for reversing the resorting based on the first key (reverse code book) (col. 5, lines 60-67 and col. 9, lines 35-50);

an encryption means for resorting the sequence of code words based on the second key (code book key 906) by changing an order of code words (col. 14, lines 5-25);

a partial encoder (encoder) for carrying out part of the encoding that has been reversed by the partial decoder in order to generate the data stream encrypted based on the second key, wherein the second data stream has the predefined data stream syntax (col. 6, lines 10-40 and col. 9, lines 5-50).

Regarding on Claims 29 and 34, Chen discloses apparatus for generating a second data stream encrypted based on a key from a first data stream, wherein said first data stream is an audio signal with a predefined data stream syntax encoded by using an encoder, comprising

a partial decoder (decoder) for reversing part of the encoding such that a sequence of code words generated by entropy encoding (entropy encoder 208) of quantized spectral values is present (Figure 2, col. col. 5, lines 60-67 and col. 6, lines 1-10);

an encryption means for resorting the sequence of code words based on the key (code book key 906) by changing an order of code words (col. 14, lines 5-25);

a partial encoder (encoder) for carrying out part of the encoding that has been reversed by the partial decoder in order to generate the data stream encrypted based on the key, wherein the second data stream has the predefined data stream syntax (col. 6, lines 10-40 and col. 9, lines 5-50).

Regarding on Claims 30 and 35, Chen discloses apparatus for generating a decrypted data stream from a first data stream encrypted based on a key, wherein said first data stream is an encoded audio signal with a predefined data stream syntax, wherein said first data stream is encrypted such that a sequence of code words generated by entropy encoding spectral values has been resorted based by changing an order of code words on a first key, comprising:

a partial decoder (decoder) reversing part of the encoding such that the resorted sequence of code words is present (col. 8, lines 15-65);

a decryption means by reversing the resorting of the sequence of code words based on the key (col. 5, lines 55-67 through col. 6, lines 1-10 and col. 9, lines 35-50);

a partial encoder (encoder) for carrying out part of the encoding that has been reversed by the step of reversing in order to generate the second data stream with the predefined data stream syntax (col. 6, lines 10-40 and col. 9, lines 5-50).

Regarding on Claims 31 and 36, Chen discloses apparatus for generating a decrypted audio signal from an encrypted data stream comprising a sequence of code words generated by entropy encoding of quantized spectral values resorted in a

uniquely reversible manner by changing an order of the code words wherein the encrypted data stream comprises payload data differing from payload data of a non-encrypted data stream and wherein the encrypted data stream comprises the same data stream syntax as a non-encrypted data stream, comprising:

a decoder (entropy decoder 202) for decoding input data in order to generate decoded output data (col. 5, lines 60-65); and
a decryption means for influencing the resorted sequence of code words based on a key (reverse code book) in order to reverse the resorting that has been carried out in an apparatus for generating an encrypted data stream in order to obtain the decrypted audio signal (col. 5, lines 55-67 through col. 6, lines 1-10 and col. 9, lines 35-50).

Regarding on Claim 14, Chen discloses the limitations of Claim 11. Chen further discloses wherein said partial decoder has a bit stream demultiplexer, wherein said encoder internal data are the output data from the bit stream demultiplexer (col. 5, lines 60-67 and col. 6, lines 25-40).

Regarding on Claim 15, Chen discloses the limitations of Claim 14. Chen further discloses wherein said partial decoder further comprises an entropy decoder following the bit stream demultiplexer, wherein said encoder internal data are the output data from the entropy decoder (col. 5, lines 60-67 and col. 6, lines 25-40).

Regarding on Claim 16, Chen discloses the limitations of Claim 11. Chen further discloses wherein scale factors are influenced apart from the two or more quantized spectral values (col. 11, lines 20-67 and col. 12, lines 1-55).

Regarding on Claim 18, Chen discloses the limitations of Claim 17. Chen further discloses wherein said decoder further comprises: a plurality of functional blocks coupled with a bit stream demultiplexer conducting parts of the data stream to the single blocks according to the predefined data stream syntax (col. 5, lines 25-60, col. 6, lines 10-40 and col. 9, lines 5-65).

Regarding on Claim 19, Chen discloses the limitations of Claim 18. Chen further discloses wherein said decoder further comprises: a synthesis filter bank in order to convert a spectral representation of the audio signal into a timely representation (co. 5, lines 25-60).

Allowable Subject Matter

6. Claims 1-10, 25-27 and 32 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

The limitations of Claims 1, 20, 25 and 32 recite "an encoder for encoding the audio signal in order to generate a data stream with a predefined data stream syntax as output signal; an encryption means coupled with the encoder for influencing encoder internal data in a uniquely reversible manner based on a key such that the generated

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encrypted data stream comprises payload information differing from payload information of a data stream that would be generated by the apparatus without the presence of the encryption means and that the generated encrypted data stream comprises the predefined data stream syntax, wherein said encoder is an encoder for audio signals, comprising: an analysis filter bank for converting the audio signal from the time domain into a spectral representation in order to obtain spectral values; a quantizing means for quantizing the spectral values under consideration of a psychoacoustic model; and an entropy encoder arranged to carry out an entropy encoding of the quantized spectral values via a plurality of predefined code tables wherein each code table for the entropy encoding of quantized spectral values is provided in a frequency band and wherein at least one frequency band comprises two or more quantized spectral values, and wherein said encryption means is arranged to resort the two or more quantized spectral values in the frequency band comprising two or more quantized spectral values having an associated code table based on the key."

The limitations of Claims 1, 20, 25 and 32 above clearly overcome the prior art.

Claims 2-10 and 26-27 are allowable for incorporating the above same reason by dependency.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Prior Art

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Chen et al. (U.S. Patent 6,377,930) discloses variable to variable length entropy encoding.

Yin (U.S. Patent 6,240,379 B1) discloses system and method for preventing artifact in an audio data encoder device.

Uz (U.S. Patent 6,351,538 B1) discloses conditional access and copy protection scheme for MPEG encoded video data.

Kim (U.S. Patent 6,584,199 B1) discloses conditional access system and method thereof.

Contact Information


8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bao Tran N. To whose telephone number is 571-272-8156. The examiner can normally be reached on Monday-Friday from 8:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Y. Vu can be reached on 571-272-3859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Bao Tran N. To
Patent Examiner
11/11/2005


Primary Examiner
Art Unit 2135